VATSET, P.I.; VLASENKO, V.G. [Vlasenko, V.H.]; VOLOSHCHUK, V.I.; DOROSHENKO, G.A. [Doroshenko, H.A.]; KOLESNIKOV, L. Ya. [Kolesnykov, L. IA.]; NIKITIN, V.A. [Nikitin, V. O.]; TONAPETYAN, S.G. [Tonapetyan, S.H.]

Diffusion chamber. Ukr. fiz. zhur. 6 no.2:168-174 Mr-Ap '61.

(MIRA 14:6)

1. Fiziko-tekhnicheskiy institut AN USSR, g. Khar'kov.
        (Electrons—Scattering)
        (Cloud chamber)

VATSET, P.I.; VOLOSHCHUK, V.I.; KOLESNIKOV, L. Ya. [Kolesnykov, L. IA];
NIKITIN, V.A. [Nikitin, V.O.]; TONAPETYAN, S.G. [Tonapetian, S.H.]

Liquid-hydrogen bubble chamber. Ukr. fiz. zhur. 6 no.2:175-181
Mr-Ap '61.   (MIRA 14:6)

1. Fiziko-tekhnicheskiy institut AN USSR, g. Khar'kov.
            (Electrons—Scattering)
            (Bubble chamber)

VATSET, P.I.; VOLOSHCHUK, V.I.; KOLESNIKOV, L. Ya. [Kolesnykov, L. IA];
NIKITIN, V.A. [Nikitin, V.O,];TONAPETYAN, S.G. [Tonapetian, S.H.]

Eleven-liter propane bubble chamber. Ukr. fiz. zhur. 6 no.2:182-185
Mr-Ap '61.   (MIRA 14:6)
                    (Electrons—Scattering)
                    (Bubble chamber)

VOLOSHCHUK, V.I.; KUZNETSOV, V.V.; SULYAYEV, R.M.; FILIPPOV, A.I.;
SHCHERBAKOV, Yu.A.

Measurement of particle ionization by the relative photometry
of track photographs. Prib. i tekh. eksp. no.3:34-36 My-Je '60.
(MIRA 14:10)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Photography, Particle track)
(Ionization)

L 29272-66   EWP(j)/EWT(1)/EWT(m)/FCC/T   RM/GW/DS/WW/RO/JK

ACC NR: AP6019349   SOURCE CODE: UR/0362/66/002/002/0164/0173

AUTHOR: Voloshchuk, V. M.

ORG: none

TITLE: Approximate computation of the trapping coefficients of aerosol particles by obstacles of different form

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 2, 1966, 164-173

TOPIC TAGS: aerosol, asymptotic property

ABSTRACT: The author has derived approximate analytical formulas for computing the trapping coefficients for aerosol particles by various obstacles for a known field of velocities of the medium and a known force of interaction of aerosol particles with the obstacle. Also presented is a theorem on the asymptotic behavior of the trapping coefficient for large Stokes numbers. The formulas are tested using several specific examples: for potential and Stokes flow around a sphere, for potential flow around a round cylinder and for potential continuous and Kirchhoff flow around a plate. Comparison of the results with the data of other authors revealed good agreement. The author thanks L. M. Levin and M. L. Mikhol'son for their attention to the work and for their valuable consultations. Orig. art. has: 15 formulas and 7 tables. [JPRS]

SUB CODE: 20 / SUBM DATE: 02Jun65 / ORIG REF: 008

Card 1/1   UDC: 551.510.42

ACC NR: AP6011118   SOURCE CODE: UR/0362/65/001/012/1289/1298

AUTHOR: Voloshchuk, V. M.

ORG: none

TITLE: Critical conditions for inertial precipitation of aerosols from symmetrical flows

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, no. 12, 1965, 1289-1298

TOPIC TAGS: aerodynamic force, aerosol, aerodynamics

ABSTRACT: With a number of limiting assumptions the author has solved the problem of analytical determination of k_{cr} (critical Stokes number). As a simplification it is assumed that there are critical conditions for symmetrical flows, that the flow of the medium is stationary, there are no hydrodynamic or other interactions between particles, the form of the particles can be approximated by a sphere, the flow of the particles is of a Stokes character and only aerodynamic forces act on the particles. The existence of critical conditions is demonstrated and it is shown approximately what part of the medium flowing around an obstacle plays the principal role in setting in of these conditions. Also considered is the specific case of flow around a circular cylinder for the case Re <1. It is shown that for precise determination of k_{cr} in the general case of symmetrical flows it is sufficient to have the values of the

Card 1/2   UDC: 532.032

L 16914-66

ACC NR: AP6011118

2

normal component of the velocity of the aerosol on some part of the axis of symmetry, parallel to the axis of unperturbed flow. The paper gives a system of algebraic equations for precise determination of k_{cr}. This paper is esentially a continuation of a study by L. M. Levin (Issledovaniya po Fizike Grubodispersnykh Aerozoley -- Investigations in the Physics of Coarsely Dispersed Aerosols -- Izd-vo AN SSSR, 1961). The author thanks L. M. Levin and M. L. Mikhel'son for valuable consultations and help in carrying-out the work. Orig. art. has: 3 figures, 13 formulas, and 1 table. [JPRS]

SUB CODE: 20 / SUBM DATE: 01Apr65 / ORIG REF: 006 / OTH REF: 002

Card 2/2 mc

PARSHIN, V.G.; VASIL'YEV, S.P.; VOLOSHCHUK, V.U.

New developments in research. Stal' 25 no.10:965 O '65.
(MIRA 18:11)

28431
S/185/61/006/002/003/020
D210/D304

$2/,60 o o$

l.

AUTHORS: Vatset, P.I., Vlasenko, V.H., Voloshchuk, Yu.Ya.,
Doroshenko, H.A., Kolesnykov, L.Ya., Nikitin, V.O.,
and Tonapetyan, S.H.

$\not{X}$

TITLE: A diffusion cloud chamber

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 2, 1961,
168 - 173

TEXT: The authors describe the construction and operation of metha-
nol in an air diffusion chamber. This chamber was built as an expe-
rimental model for a larger chamber for use with a linear electron
accelerator. The chamber (Fig. 1) has a working diameter of 26 cm
and an effective height of 6 cm. It is made of stainless steel and
consists of three sections: the lower cylinder 1, the cone 2, and
the upper cylinder 3. The internal diameter of the lower cylinder
is 30 cm and of the upper 22 cm, and the height of the chamber is
80 cm. At the base of the chamber there is a copper condensation
disc 4, whose surface has been chemically blackened. This disc is

Card 1/4

A diffusion cloud chamber

28431
S/185/61/006/002/003/020
D210/D304

cooled by passing liquid nitrogen through a coil (5) soldered onto
the bottom of the disc. A glass cylinder (6), 26 cm diameter, 10
cm high, and 4 mm thick is held firmly against the copper disc with
the copper cone, thus ensuring a good temperature contact. The tem-
perature distribution in the conical section is effected by electri-
cally heating the flanges of the cone, the lower flange temperatu-
re corresponding to the methanol temperature. The cone and the
lower ring is separated by a heat insulator 7, the bolts (8) being
similarly insulated. Thermocouple and electrode connections are
made through the insulating ring, the screen 9 being connected by
glass rods to the electrodes. Two windows (10) made from organic
glass are situated diametrically opposite each other for illumina-
ting the chamber space. The methanol is fed to the chamber through
the lead 12, and it is held in the groove 11 of capacity 300 cm^3,
the evaporation being enhanced by filter papers placed in the groo-
ve. The methanol temperature is controlled with a thermocouple
which enters the chamber through 13. Two windows (14) are provided
for photographing the working volume and one (15) for visual ob-

Card 2/5

28431
S/185/61/006/002/003/020

A diffusion cloud chamber   D210/D304

servation. The upper part of the chamber is held at a higher tem-
perature to prevent condensation of methanol on the windows which
can cause a high background. The operation of the chamber is con-
trolled by automatically varying the liquid nitrogen flow rate,
the methanol temperature, and the temperature of the upper flange
of the lower cylinder. The chamber was tested with an air and me-
thanol filling at 1 and 3.5 at. It could be operated at a bottom
temperature of -45 to -70°C and a methanol temperature of 10 to
30°C, however, the most satisfactory temperatures were found to
be -50 and 20°C respectively, giving a temperature gradient in
the working space of 7 deg/cm. At an alcohol temperature above 20°C
the droplet background was high; when the temperature fell to 0
to 10°C the vapor flow was insufficient for satisfactory operation
of the chamber. The authors have given in this paper a good des-
cription and diagrams of the supporting equipment for pumping the
liquid nitrogen and feeding methanol to the diffusion chamber.
The authors state that they are preparing at the moment a larger
chamber with a diameter of 30 cm and a working pressure of 30 at.

Card 3/5

28431
S/185/61/006/002/003/020
A diffusion cloud chamber   D210/D304

There are 6 figures and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read
as follows: A. Langsdorf, Rev. Sci. Instr., 10, 91, 1939; Shutt,
Rev. Sci. Instr., 22, 730, 1951.

ASSOCIATION: Fizyko-tekhnichnyy instytut, AN URSR, m. Kharkiv
            (Technical Physics Institute, AS UkrSSR, Khar'kov)

SUBMITTED: July 1, 1960

Card 4/5

2432
S/185/61/006/002/004/020
D210/D304

2/.600'

AUTHORS: Vatset, P.I., Voloshchuk, V.Y., Kolesnykov. L.Ya..
Nikitin, V.O., and Tonapetyan, S.H.

TITLE: A liquid hydrogen bubble chamber

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 2, 1961,
175 - 181

TEXT: The authors describe the construction and operational cha-
racteristics of an experimental liquid hydrogen bubble chamber of
500 cm³ capacity. The object of this work was to have a model
chamber for constructing a larger liquid hydrogen bubble chamber.
The bubble chamber with the associated equipment is shown in Fig.
1, where 1 is the chamber itself, 10 cm diameter and 5 cm high; 2
is a cup containing a brass sylphon 3. Photography and illumina-
tion are carried out through windows 4, made of Pyrex glass. The
windows are sealed with a copper gasket of special configuration
5. Copper gaskets were found to be more reliable than lead, as

Card 1/9 5

A liquid hydrogen bubble chamber

2432
S/185/61/006/002/004/020
D210/D304

well as being reusable. The chamber is contained in the liquid hydrogen thermostat 6 which is connected with the reservoir 7 of 4l. capacity. The temperature of the thermostat is controlled with a special pressure stabilizer 8, which consists of a closed cylindrical vessel containing a small rubber tube along its diameter. The tube is part of the conduit connecting the hydrogen reservoir with a gas cylinder. Nitrogen gas, admitted to the cylinder under a certain critical pressure, restricts the flow of hydrogen through the tubing until the critical pressure is exceeded. This resulted in a pressure control better than 0.1 at. The hydrogen system is surrounded with a belt at nitrogen temperature which consists of a reservoir of liquid nitrogen 9 and a screen 10. This whole system is made of copper and it is contained in a high vacuum chamber 11 which is evacuated by means of a diffusion pump, as well as with activated charcoal 12 placed at the bottom of the screen 10. The liquid level in the hydrogen and nitrogen reservoirs is measured by means of a hydrostatic level gauge 13 filled with oil. To effect full evaporation of liquid hydrogen in the dip tube a copper

Card 2/5

28432
S/185/61/006/002/004/020
A liquid hydrogen bubble chamber   D210/D304

conductor is inserted inside it. Superheating of liquid hydrogen
in the chamber is achieved by reducing pressure with sylphon me-
chanism 14, 15. The pressure on the upper sylphon is applied
through the electromagnetic valve 16 and the magnitude of movement
is controlled by means of the regulator 17. A detailed description
of the electromagnetic valve is given. Gaseous hydrogen purified
silica gel and activated charcoal is fed to the chamber through
the precooler 18 and the needle valve 19, and the pressure in the
chamber is measured by the gauge 20. The authors have given a
brief description of bringing the chamber into operation. The cham-
ber was operated over a temperature range of 27 to $30^{o}K$ (ccrres-
ponding to a vapour pressure of 4.5 to 8 at.) and a working cycle
of 2 seconds. It was fornd that by constant superheating, the sen-
sitivity of the chamber increased with temperature. The sensitivi-
ty also varied with the amplitude of superheating, and it was pos-
sible to make the chamber insensitive to relativistic particles.
The consumption of liquid hydrogen was 15 l. for cooling and half
a liter for each hour of operation. 60 l. of liquid nitrogen was

Card 3/5

A liquid hydrogen bubble chamber

28432
S/185/61/006/002/004/020
D210/D304

also required for 10 hours of operation and initial cooling. For lighting the chamber a pulse lamp 27 was used. To give a good illumination of the chamber light passed through a venetian blind 28, made of 2 mm organic glass, 10 mm wide, glued together to make an angle of 30^0 with the window. [Abstractor's note: The angle should probably read 60^0]. There are 5 figures and 4 references: 2 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: H.P. Hernander, I.W. Mark, R.D. Watt, Rev. Sci. Instr. 28, 528, 1957

ASSOCIATION: Fizyko-tekhnich-nyy instytut, AN URSR, m. Kharkiv
            (Technical Physics Institute, AS UkrSSR, Khar'kov)

SUBMITTED: July 1, 1960

Card 4/5

28433
S/185/61/006/002/005/020
D210/D304

2/.6000
AUTHORS: Vatset, P.I., Voloshchuk, V.I., Kolesnykov, L.Ya.,
             Nikitin, V.O., and Tonapetyan, S.H.

TITLE: 11 liter propane bubble chamber

TEXT: The authors review the advantages and simple theory of bubble
chambers and they describe a propane bubble chamber which has a
capacity of $34.0 \times 20.4 \times 16.0$ cm^3, and is intended for use in a
magnetic field of 12000 gauss. The chamber has two windows, 37 x
34×7 cm^3 made of hardened optical glass. Pressure is applied to
the working liquid hydraulically with the help of compressed air.
The pressurizing unit 1 consists of to electromagnetic valves 2, 3,
and the pressure-drop to a preset level is controlled by means of
the regulator 5. The working temperature of the chamber is $64^{\circ}C$,
corresponding to a vapor pressure of 24 at. This temperature is

Card 1/3

11 liter propane bubble chamber

28433
S/185/61/006/002/005/020
D210/D304

maintained constant by thermostating the chamber, the hydraulic
duct 6, the pressure controller 1, and the compressed air reservoir
4. Unlike other bubble chambers this one has a vacuum duct 8,
passing through the working liquid, for admixing with the liquid
solid, liquid, or gaseous substances for investigation. Two types
of lighting were tried. One was lighting through a venetian blind
block, while the other consisted of passing the light through a
polarizer and photographing it through an analyses. The chamber
was assigned for a study of the interaction of electrons, γ-rays,
and mesons with hydrogen, carbon and other nuclei. Under certain
circumstances the chamber with the vacuum duct can be used for
scattering electrons with electrons. There are 1 figure and 8 re-
ferences: 4 Soviet-bloc and 4 non-Soviet-bloc. The references to
the English-language publications read as follows: D.A. Glaser,
Phys. Rev., 87, 665, 1952; D.A. Glaser, Phys. Rev., 91, 762, 1952;
L.O. Oswald, W.M. Powelle, W.B. Folwer, Rev. Sci. Instr., 29, N10,
874, 1958; Hilding Slütz, Nucler Instr., 5, N 1, 1959.

Card 2/4

28433
S/185/61/006/002/005/020
11 liter propane bubble chamber   D210/D304

ASSOCIATION: Fizyko-tekhnichnyy instytut, AN URSR, m Kharkiv
             (Technical Physics Institute, AS UkrSSR, Khar'kov)

SUBMITTED: July 1, 1960

Card 3/4

VOLOSHCHUK, V.U.; TRIFONOVA, R.G.; ZVEREVA, Ye.V.; TARNAVSKIY, A.L.;
ASHURKINA, Ye.M.; IVANOV, V.P.

New developments in research. Stal' 23 no.9:858 S '63.
(MIRA 16:10)

ANDRIYEVSKIY, A. I.; NABITOVICH, I. D.; VOLOSHCHUK, Ya. V.

A method for taking the background into account in electron
diffraction studies of the structure of amorphous substances.
Kristallografiia 7 no.3:350-352 My-Je '62.

(MIRA 16:1)

1. L'vovskiy politekhnicheskiy institut.

(Electron diffraction examination)

24.7200

1144, 1160, 3309, 1138

26643
S/070/61/006/005/001/011
E036/E518

AUTHORS: Andriyevskiy, A.I., Nabitovich, I.D. and
Voloshchuk, Ya.V.

TITLE: The structure of thin layers of semiconductors of the
type A_2B_3 in the amorphous state

PERIODICAL: Kristallografiya, 1961, Vol.6, No.5, pp.662-667

TEXT: The structure of thin layers of the compounds As_2Se_3
and As_2Te_3 in the amorphous state are studied by an electron
diffraction method. The samples were prepared by evaporation onto
a Zapon substrate in vacuum. The deposition was carried out at
various rates and the layer thicknesses in the range 500 to 1200 Å.
The layers were subjected to heat treatment at various temperatures
and durations up to one hour.   It is shown that the structure of
the compounds changes during temperature ageing, and markedly so as
crystallization commences. As the properties of the compounds are
dependent on the structure of the compound any information on the
structure is desirable. During evaporation the substrate was
maintained at -10 or 20°C. The substrate was dissolved off in
acetone and the diffraction patterns taken with various exposures

Card 1/4

The structure of thin layers of ...   26643
S/070/61/006/005/001/011
E036/E518

up to 16 sec. Other samples were maintained at various temperatures up to one hour. The analysis of the intensity of the curves is based on earlier papers by L. I. Tatarinova (Refs.4 and 5; Tr.In-ta kristallogr. AN SSSR, 11, 104-114, 1955; Kristallografiya, 2,2,260-267, 1957) and by S. A. Lashko (Ref.6; K metodike rasshifrovki rentgenogramm amorfnykh tel. Izd-vo Dnepropetr. un-ta, 1940 (On a method of interpreting X-ray data of amorphous bodies etc.)). From the data the coordination number can be obtained as a function of the temperature and are shown in Figs. 3 and 4 for As_2Se_3 and As_2Te_3, respectively. The upper curve gives $n_{As,Se}$ and the lower curve $n_{Se,As}$ in both figures.   The reproducibility of the results was about 2% for As_2Se_3. The coordination number was independent of thickness in the range 500 to 1200 Å and of the rate of evaporation. No other thickness range was investigated. The best reproducibility for As_2Te_3 was $\sim$ 4-5% achieved for very rapid evaporation. The slower the evaporation rate the more strongly the components As and Te are separated out and the longer the time required for homogenization. The presence of

Card 2/4

The structure of thin layers of ...   26843
S/070/61/006/005/001/011
E036/E518

negative portions of the radial distribution curves, which should
not be present according to theory,   cannot be entirely explained
by methods of calculating the background. The conclusions are that
the structure depends on the temperature and the order increases
irreversibly with increasing temperature, particularly in the first
two coordination spheres, as far as the crystallization temperature
($100°C$ for As_2Te_3 and $180°C$ for As_2Se_3, or $\sim 120°C$ and $230-240°C$
respectively on the substrate). The degree of order, in fact,
increases almost linearly with increasing temperature up to some
value ($160°C$ for As_2Se_3 and $85°C$ for As_2Te_3) at which the coordina-
tion number is a maximum. As the crystallization temperature is
approached the structure rapidly relaxes. It is supposed that in
the latter stage of the process the crystallization is completely
destroyed and there is no analogy between the structure in the
amorphous state, even in the maximum degree of order, and arrange-
ment of the atoms peculiar to the crystal lattice of the material.
There are 4 figures, 1 table and 6 references: 5 Soviet and
1 non-Soviet.
ASSOCIATION: L'vovskiy politekhnicheskiy institut
             (L'vov Polytechnical Institute)
Card 3/4

S/070/62/007/006/006/020
E132/E435

AUTHORS: Andriyevskiy, A.I., Nabitovich, I.D., Voloshchuk, Ya.V.

TITLE: Electron diffraction examination of the amorphous
             structures of the compounds of Ga, In and Sb with
             Se and Te

PERIODICAL: Kristallografiya, v.7, no.6, 1962, 865-872

TEXT: Amorphous thin layers of the compounds Ga_2Se_3, Ga_2Te_3,
In_2Se_3, In_2Te_3, Sb_2Se_3 and Sb_2Te_3 have been studied by electron
diffraction.   All specimens were prepared by vacuum evaporation
(as alloys) on to celluloid substrates at $20°C$,   Various speeds
of evaporation were used.   Some specimens were annealed in vacuo.
Multiple exposure electronograms were taken and photometered.
Using Beevers-Lipson strips the scattering curves were converted to
give radial density distributions.   Tables of the coordination
numbers at different distances are given.   The amorphous
structure of all the compounds studied varies with temperature over
the range in which it is amorphous.   These changes are of three
types: (a) Ga_2Se_3 and In_2Se_3 where the amorphous structure at
room temperature and at moderate temperatures $(200°C)$ is close to
Card 1/2

Electron diffraction ...

S/070/62/007/006/006/020
E132/E435

the crystalline structure but which, at temperatures near to the
crystallization temperature, is strongly broken up;
(b) the compounds Ga_2Te_3 and In_2Te_3 where the amorphous structure
near to the crystallization temperature is like the crystalline
structure and is strongly broken up at room and at moderate
temperatures; (c) the compounds Sb_2Se_3 and Sb_2Te_3 (and also As_2Se_3
and As_2Te_3 which were known earlier) where the amorphous structure
is significantly different at all temperatures from the
crystalline structure. There are 6 figures and 1 table.

ASSOCIATION: L'vovskiy politekhnicheskiy institut
             (L'vov Polytechnic Institute)

SUBMITTED: February 20, 1962

Card 2/2

L-36962-66   EWT(m)/T/EWP(t)/ETI   IJP(c)   RDW/JD

ACC NR: AP6016935   SOURCE CODE: UR/0077/66/011/001/0027/0030

AUTHOR: Nabitovich, I. D.; Stetsiv, Ya. I.; Voloshchuk, Ya. V.

ORG: L'vov Polytechnical Institute (L'vovskiy politekhnicheskiy institut)

TITLE: Crystallization of selenium xerographic layers

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 11, no. 1, 1966, 27-30 and appropriate inserts following page 30

TOPIC TAGS: electrophotography, selenium, crystallization, dielectric layer, semiconducting film

ABSTRACT: The authors study the crystallization of selenium layers at moderate temperatures (20-100°) with particular regard to the kinetics of crystallization from the substrate side. The specimens were prepared by vaporization of selenium (99, 992) in a vacuum of 10^{-4} mm Hg on aluminum, glass, mica and NaCl substrates held at a constant temperature during vaporization. The rate of deposition was 1 μ/min in all cases. The selenium layers were 8-10 μ in thickness. A "Polmi A" polarization microscope was used for studying the crystallization processes in conjunction with a UEMV-100 electron microscope. Polystyrene lacquer was used to separate the selenium layers from the opaque substrate. It was found that crystallization always begins on the substrate side in the given temperature range and is practically independent of the nature of the

Card 1/2   UDC: 772.93

L 36962-66

ACC NR: AP6016935

underlying layer. The crystals have a dendritic "lobed" form with an extremely rapid rate of growth parallel to the substrate and a slow rate of growth in the perpendicular direction. The overall rate of crystallization in the layer is strongly dependent on temperature. No crystallization centers are observed in spray coatings applied for 10 minutes to substrates at a temperature below 70°. Dendritic crystals appear at 55° after 1 hour and at 40° after 15 hours. Layers applied for 10 minutes at temperatures of 70-75° show partial crystallization, while layers produced in the same time at 90° are completely crystallized. Light also has a very strong effect on the rate of crystallization of the selenium layers from the substrate side. An ordinary thermostatically controlled electric light (82 w) accelerates the rate of crystallization by a factor of 10-50 depending on the aging temperature. It is suggested that high-temperature deposition of selenium layers or heat treatment of layers deposited at lower temperatures may be used to form a double semiconductor-dielectric layer with improved xerographic properties. These layers should be stable at room temperature since the rate of crystallization is extremely slow in the perpendicular direction. Orig. art. has: 4 figures.

SUB CODE: 11,20/ SUBM DATE: 06Oct64/ ORIG REF: 008/ OTH REF: 005

Card 2/2 MB

VOLOSHENKO, Fedor Petrovich; TERKHUNOV, A.G., red.; ANTONOV, V.P., tekhn. red.

[Theory of piston internal combustion engines] Teoriia porshnevykh dvigatelei vnutrennego sgoraniia; metodicheskoe posobie. Kuibyshev, 1962. 239 p. (MIRA 16:4)

1. Kuybyshevskiy sel'skokhozyaystvennyy institut. Kafedra "Traktory i avtomobili."
                    (Gas and oil engines)

VOLOSHENKO, Fedor Petrovich, dots.; KORMAKOV, A.V., red.; ANTONOV, V.P.,
    tekhn.red.

[Analysis of the gas-exchange process in two-stroke piston internal
combusion engines; systematic manual] Raschet protsessa gazoobmena
dvukhtaktnykh porshnevykh dvigatelei vnutrennego sgoraniia; metodi-
cheskoe rukovodstvo. Kuibyshev, Kuibyshevskii sel'khoz. in-t,
1961. 49 p.   (MIRA 15:4)

1. Kafedra "Traktory i avtomobili" Kuybyshevskogo sol'skokhozyaystven-
nogo instituta (for Voloshenkc).
                    (Gas and oil engines)

DANILOV, Vasiliy Matveyevich; KOLTUNOV, Semen Yakovlevich; LIKHNITSKIY,
Georgiy Vital'yevich; VOLOSHENKO, F.P., dotsent, kand.tekhn.nauk,
retsenzent; SOROKA, M.S., red.

[Practical guide on babbitt deposition by means of hydrogen
welding] Prakticheskoe rukovodstvo po vodorodnoi naplavke
babbita. Moskva, Gos.nauchno-tekhn.izd-vo mashinostr.lit-ry,
1959. 94 p.   (MIRA 12:10)
    (Gas welding and cutting)   (Babbitt metal)

Voloshenko,F.P.

VOLOSHENKO, F.P.; SERDYUK, V.K., inzhener, redaktor; RUDENSKIY, Ya.V., tekhnicheskiy redaktor

[Fly wheels of internal combustion engines] Makhoviki dvigatelei vnutrennego sgoraniia. Kiev, Gos. nauchno-tekhn. izd-vo mashino-stroit. lit-ry, Ukrainskoe otd-nie, 1955 49 p.   (MLRA 8:7)
(Fly-wheels) (Oil and gas engines)

VOLOSHENKO, F.P., kand. tekhn. nauk

Modernizing and developing the 6ChRP 25/34 engine. Izv. vys. ucheb. zav.; mashinostr. no.3/4:97-103 '58. (MIRA 12:5)

1.Nikolayevskiy korablestroitel'nyy institut.
         (Marine engines)

VOLOSHENKO, F.P.,kand.tekhn.nauk, dots.

"Internal combustion engines." Reviewed by F.P.Voloshenko.
Izv.vys.ucheb.zav.; mashinostr. no.5:151-153 '58.
                                            (MIRA 12:5)

1. Nikolayevskiy korablestroitel'nyy institut.
            (Gas and oil engines--Design)

VOLOSHCHIK, D.P.

Production of biogas from manure. Zhivotnovodstvo 21 no.8:90-96
Ag '59.   (MIRA 12:11)

1. Zaveduyushchiy otdelom mekhanizatsii Latviyskogo nauchno-issledo-
vatel'skogo instituta zhivotnovodstva i veterinarii.
                (Farm manure)   (Methane)

VOIOSEVICH, F. P., inzh.

Measuring large-sized parts. Mashinostroitel' no.11:34-36 N '58.
(MIRA 11:12)

1.Leningradskiy Kirovskiy zavod.
(Measuring instruments)

VOLOSEVICH, F.P.

Devices for the HIS-11 dual microscope. Izm.tekh. no.3:14-15
Mr '59.   (MIRA 12:4)

                          (Microscope)

SOV/115-59-7-4/33

24(4)
AUTHOR: Volosevich, F.P.

TITLE: Accessories for Optical Dividing Heads

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 7, pp 6-9 (USSR)

ABSTRACT: The optical dividing heads produced by the Soviet industry are
             frequently inadequately used, because necessary accessories are
             not available. In this article some accessories of optical divid-
             ing heads are described which are used by the "Kirov" plant and a
             number of other industrial installations. For measuring parts of
             great dimensions, among them centerless parts, gears, etc., face
             plates of 150 and 400 mm diameter are used. Face plates of 700 mm
             diameter are used at the Leningrad plant "Vulkan". The author
             further describes a self-centering chuck for an optical dividing
             head. Accessories used with optical dividing heads at the Lenin-
             grad plant "Vulkan" were described by N.P. Vasil'yev and V.N.
             Levitskiy in ref.2. There are 7 diagrams, 2 tables and 2 Soviet
             references.

Card 1/1

VOLOSHENKO, F.P.

USSR/ Miscellaneous - Nomenclature

Card   1/1   :   Pub. 128 - 20/25

Authors   :   .....

Title   :   About the nomenclature and classification of internal combustion engines

Periodical   :   Vest. mash. 1, page 84, Jan 1955

Abstract   :   The editorial presents several rebuttals of F. P. Voloshenko's article entitled "Methods for Assigning the Nomenclature and Classifying the Internal Combustion Engines", published in Vest. mash. No. 4, 1954.

Institution :   .....

Submitted   :   .....

VOLOSHENKO, F.P., dotsent.

On the problem of denomination and classification of internal combustion
engines. Vest.mash.34 no.4:79-82 Ap '54.   (MLRA 7:5)
        (Gas and oil engines)

VOLOSHCHENKO, M.V.

High-strought cast iron with granular pearlite. Lit.proizv.no.1:17-
18   Ja '57.   (MIRA 10:3)
    (Cast iron--Metallography) (Pearlite (Metallography)

5A

The problem of the ... of electrostatic guard ... . VISGOROVSKII, N. E. *Elektrichestvo* (No. 6) 61-4 (1947) *in Russian*. — The behaviour of guard rings around cylindrical capacitor electrodes and between a point and a plane is investigated theoretically and experimentally (by means of a dielectric sonde). The results indicate how the charged guard electrode alters the intensity and the character of the field distribution and lead to rules of optimum guard design and location.

A. L.

METALLURGICAL LITERATURE CLASSIFICATION

VOLOSHENKO, N.N.

> Work of cohesive soils subjected to short load action. Trudy
> Khar. avt.-dor. inst. no.28:54-59 '62.   (MIRA 17:2)

VOLOSHCHENKO, P.

Social, political and philosophical views of the Southern Society
of Decembrists. Visnyk AN URSR 24:20-28 D '53.   (MLRA 7:3)
                                                       (Decembrists)

VOLOSHCHENKO, P. I.

Russia - Conspiracy of December, 1825.

Patriotism of the Decembrists. Visnyk AN USSR 22 no. 12, 1950.

9. **Monthly List of Russian Accessions**, Library of Congress, _____1953. Unclassified.

VOLOSHCHENKO, V.O.; LERNER, F.M.; LOTOTS'KYY, K.V.; KHODOROVYCH, M.A.;
KYYANOV, O., redaktor; MINEVYCH, I., technichagkiy redaktor

[Operation and maintenance of rural electric power plants] Eksplua-
tatsiia i remont sil's'kykh elektroustanovok. Kyiv, Derzh.vyd-vo
tekhn. lit-ry UBSR, 1952. 251 p.[Microfilm]   (MIRA 8:2)
        (Electric power plants)

KORNILOVICH, Yuriy Yevgen'yevich; OSOVSKAYA, I., red.; VOLOSHCHENKO, Z.,
      red.; ZELENKOVA, Ye., tekhn.red.

      [Testing the strength of mortars and concretes] Issledovaniia
      prochnosti rastvorov i betonov. Kiev, Gos.izd-vo lit-ry po stroit.
      i arkhit. USSR, 1960. 233 p.   (MIRA 13:12)
                  (Mortar--Testing)   (Concrete--Testing)

DIDENKO, V.Ye.; TSAREV, M.N.; DMITRIYEV, M.M.; LEYTES, V.A.; OBUKHOVSKIY,
     Ya.M.; IVANOV, Ye.B.; CHERTOK, V.T.; URSALENKO, R.N.; KRIGER, I.Ya.;
     PINCHUK, A.K.; ANTONENKO, N.Z.; SHUL'SON, A.S.; VASIL'CHENKO, S.I.;
     DRASHKO, A.M.; RAYEVSKIY, B.N.; KUCHIRYAVENKO, D.N.; SAVCHUK, A.I.;
     ZHURAVLEVA, L.I.; BAUTIN, I.G.; KHRIYENKO, V.Ya.; MOSENKO, N.K.; CHE-
     BONENKO, G.P.; LISSOV, L.K.; MAMONTOV, V.V.; BELUKHA, A.A.; POYDUN,V.F.;
     VOLODARSKIY, M.B.; KAL'CHENKO, G.D.; LEVCHENKO, V.M.; BASHKIROV, A.A.;
     VOROB'YEV, M.F.; IL'CHENKO, L.I.; PODSHIVALOV, F.S.; MOGIL'NYY, P.P.;
     LEVI, A.R.; VASLYAYEV, G.P.; DURNEV, V.V.; OSYPA, S.S.; SAMOFALOV,G.N.;
     FOMIN, A.F.; LESHCHINA, A.I.; FANKEL'BERG, G.Ye.; KHODANKOV, A.T.;
     MAKARENKO,I.S.; KARPOVA, K.K.; VASILENKO, I.M.; VOLOSHCHUK, A.S.; SHEL-
     KOV, A.K.; FILIPPOV, B.S.; TYUTYUNNIKOV, G.N.; DOLINSKIY, M.Yu.; NIKI-
     TINA, P.P.; MEDVEDEV, S.M.; TSOGLIN, M.E.; LERNER, R.Z.; BOGACHEV, V.I.

Mihail IAkovlevich Moroz; obituary. Koks i khim.no.3:64 '56.(MLRA 9:8)
          (Moroz, Mikhail IAkovlevich, 1902?-1956)

VOLOSHCHUK, B.M.

Extensive resection of the small intestine in volvulus. Nov. khir. arkh.
no.2:135-136 Mr-Ap '59.   (MIRA 12:7)

1.Khirurgicheskoye otdeleniye Skala-Podol'skoy rayonnoy bol'nitsy, Terno-
pol'skoy obl.
          (INTESTINES--SURGERY)

VOLOSHCHUK, B.M.

Isolated strangulation of the vermiform appendix in a femoral
hernia on the right side. Nov.khir.arkh. no.6:81 N-D '57.
(MIRA 11:3)

1. Skala-Podol'skaya rayonnaya bol'nitsa Ternopol'skoy obl.)
(APPENDIX (ANATOMY))   (HERNIA)

VOLOSHCHUK, B.M.

Novocaine anesthesia with the addition of furacilin for the prevention of postoperative suppurations. Khirurgiia 34 no.6:124-125 Je '58
(MIRA 11:8)

1. Iz Skala-Podol'skoy rayonnoy bol'nitsy Ternopol'skoy oblasti.
   (FURAN DERIVATIVES, therapeutic use
       nitrofurazone use with procaine anesth. in prev. of postop.
       suppurations (Rus))
   (PROCAINE, anesthesia & analgesia
       use with nitrofurazone in prev. of postop. suppurations
       (Rus))
   (SURGERY, OPERATIVE, complications,
       postop.suppurations, prev. by nitrofurazone admin. with
       procaine (Rus))

VOLOSHCHUK, F.A.

Tulip tree in Tajikistan. Izv. Otd. est. nauk AN Tadzh.SSR 18:103-108
'57.   (MIRA 11:8)

1. Stalinabadskiy botanicheskiy sad Instituta botaniki AN Tadzhikskoy
SSR.   (Tajikistan--Tulip tree)

M-10

USSR/Cultivated Plants. Ornamental.

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20584.

Author : F.A. Voloshchuk.
Inst   : Not given.
Title : The Tulip Tree in Tadzhikistan. (Tyul'panoye derevo v Tadzhi-
         kistane).

Orig Pub: Izv. Otd. yestestv. nauk AN Tadzh SSR, 1957, No 18, 103-109.

Abstract: The tulip tree is among the most valuable of species of
          planted trees and shrubs, it grows rapidly, is long
          lived and highly decorative. Information is given on its
          origin and geographical distribution. The best specimens
          of tulip tree in Tadzhikistan are in the botanical park
          of the Academy of Sciences Tadzhil SSR. Trees which have
          grown for 25 years reach the height of 17 meters and about
          37 cm in diameter; they blossom and bear fruit from 10-12
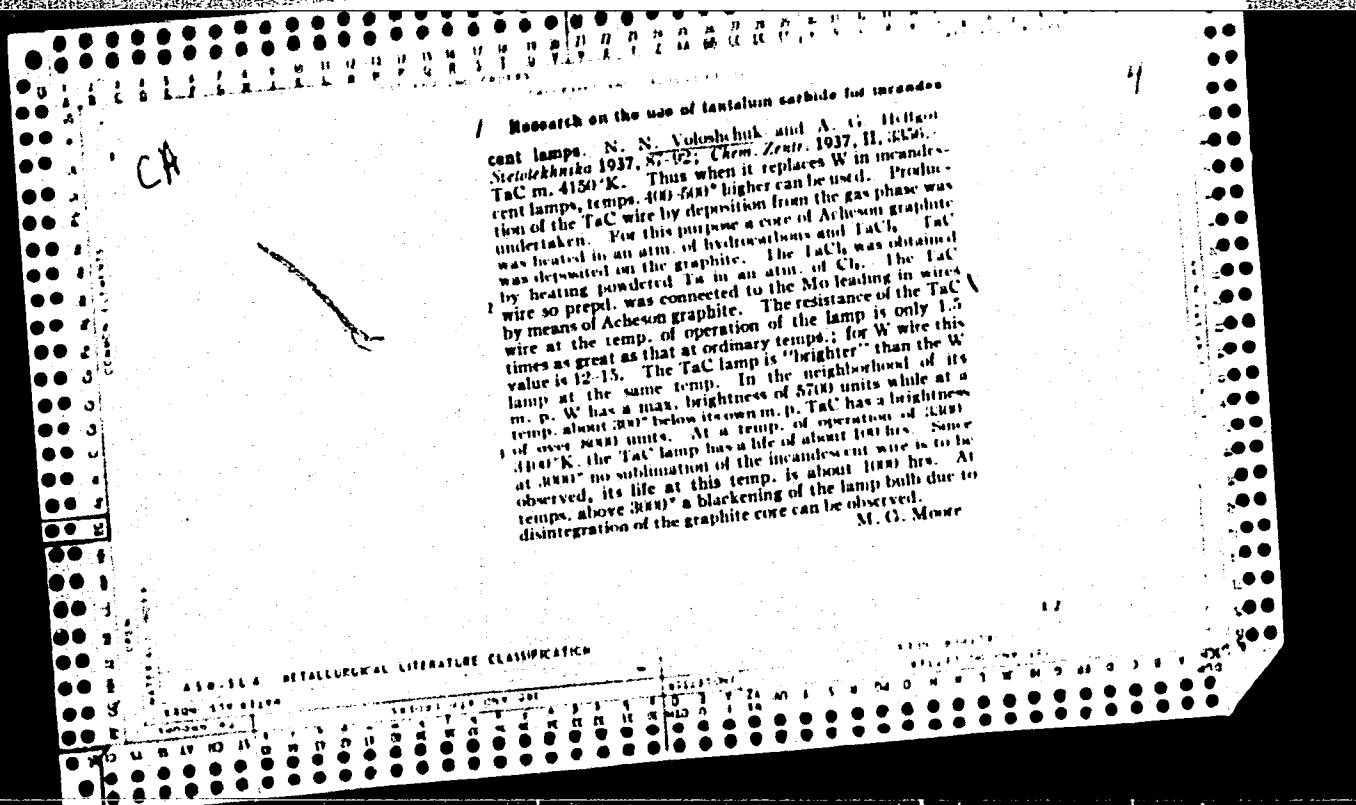
Card : 1/2

USSR/Cultivated Plants. Ornamental.   M-10

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20584.

        years. The methods of cultivating planted tulip trees
        are described.

Card   : 2/2

CH

Research on the use of tantalum carbide for incandescent lamps. N. N. Volostschuk and A. G. Helgen. *Svetotekhnika* 1937, 8, 12; *Chem. Zentr.* 1937, II, 3536. TaC m. 4150° K. Thus when it replaces W in incandescent lamps, temps. 400-500° higher can be used. Production of the TaC wire by deposition from the gas phase was undertaken. For this purpose a core of Acheson graphite was heated in an atm. of hydrocarbons and TaCl₄. TaC was deposited on the graphite. The TaCl₄ was obtained by heating powdered Ta in an atm. of Cl₂. The TaC wire so prepd. was connected to the Mo leading in wires by means of Acheson graphite. The resistance of the TaC wire at the temp. of operation of the lamp is only 1.5 times as great as that at ordinary temps.; for W wire this value is 12-15. The TaC lamp is "brighter" than the W lamp at the same temp. In the neighborhood of its m. p. W has a max. brightness of 5700 units while at a temp. about 300° below its own m. p. TaC has a brightness of over 8000 units. At a temp. of operation of 3800° (3800° K. the TaC lamp has a life of about 100 hrs. Since at 3800° no sublimation of the incandescent wire is to be observed, its life at this temp. is about 100 hrs. At temps. above 3800° a blackening of the lamp bulb due to disintegration of the graphite core can be observed.
M. G. Moore

A30-3E4 METALLURGICAL LITERATURE CLASSIFICATION

USSR / Human and Animal Physiology. Digestion, Stomach.

Abs Jour   : Rof Zhur - Biol., No 15, 1958, No. 70266

Author   : Voloshohuk, O. A.
Inst   : Chornovtsy Modical Instituto
Titlo   : Tho Excrotory Functions of tho Stomach in Pationts with
             Botkin's Disoaso [i.o., Infoctious Hopatitis]

Orig Pub   : Avtorof. dis. kand. mod. n., Chornovitsk. Mod. In-t.,
             Chornovtsy, 1958

Abstract   : No abstract givon

Card 1/1

VOLOSHCHUK, O.A.

    Secretory and excretory function of the stomach in Botkin's disease.
                                                     (MIRA 11:10)
    Vrach.delo no.9:925-927 S'58

    1. Kafedra fakul'tetskoy terapii (zav. - prof. N.B. Shchupak)
    Chernovitskogo meditsinskogo instituta.
           (STOMACH)
           (HEPATITIS, INFECTIOUS)

L 06113-67   EWT(l)/EWT(m)   DS/WW/GW

ACC NR: AP6019514

SOURCE CODE: UR/0362/66/002/002/0164/0173

AUTHOR: Voloshchuk, V. M.

ORG: none

TITLE: The approximate calculation of capture coefficients of an aerosol by obstacles of various forms

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 2, 1966, 164-173

TOPIC TAGS: particle interaction, approximation calculation, asymptotic property, aerosol chemistry, cylindric flow, spheric flow

ABSTRACT: Approximate analytical formulas are constructed for computation of capture coefficients of aerosol particles by various obstacles when the velocity field of the medium and the strength of interaction between particles and obstacles are known. A theorem is presented concerning the asymptotic behavior of the capture coefficients with high Stokes numbers. The formulas are tested on some concrete examples: for potential and Stokes flow around a sphere, for potential flow around a circular cylinder and for potential continuous and Kirchhoff flow around a plate. The results are compared with the data of other authors, and good agreement is found. Author thanks L. M. Levina and M. L. Mikhel'son for constant attention to the work and valuable consultations. Orig. art. has: 15 formulas and 7 tables.

SUB CODE: 20,12   /   SUBM DATE: 02Jun65/   ORIG REF: 007/   OTH REF: 001

ANDRIYEVSKIY, A.I.; NABITOVICH, I.D.; VOLOSHCHUK, Yu.V.

Electron diffraction studies of the structure of thin films of amorphous selenium. Kristallografiia 5 no.3:369-374 My-Je '60.
(MIRA 13:8)

1. L'vovskiy politekhnicheskiy institut.
(Selenium)

VOLOSHENKO, F.P., dotsent

Determining the effective degree of compression of engines with
inverse motion of pistons. Izv.vys.ucheb.zav.;mashinostr. no.11:
108-111 '60.   (MIRA 14:1)

1. Kuybyshevskiy sel'skokhozyaystvennyy institut.
             (Gas and oil engines--Testing)

VOLOSHENKO, Fedor Petrovich, dots.; ANTONOV, V.P., tekhn. red.

[Calculation of operating processes of internal combustion
piston engines; methodological handbook] Raschet rabochikh
protsessov porshnevykh dvigatelei vnutrennego sgoraniia;
metodicheskoe rukovodstvo. Kuibyshev, Kuibyshevskii sel'-
khoz. in-t. 1961. 83 p.   (MIRA 17:3)

VOLOSHENKO, G. P.   (Kiev Institute of the Food Industry)

    "Production of hydrolyzates of various degrees of saccharination
by means of the indirect acid hydrolysis of starch-containing raw material"

Report presented at the Conference on the Theory and Technology of
Crystalline Glucose Production, Leningrad, March 1961 (Reported in
Gidrol i lisokhim, 4, 1961)

KHODOROVICH, Mikhail Antonovich; LERNER, F.M.; LOTOTSKIY, K.V.; VOLO-
SHINKO, V.A.; PETROV, I.V.; POYARKOV, K.M., redakter; BALLOD,
A.I., tekhnicheskiy redakter; VESKOVA, Ye.I., tekhnicheskiy
redaktor.   (MLRA 9:5)

[Operating and repairing electric farm equipment] Eksplustateila i
rement sel'skokhoziaistvennykh elektricheskikh ustanovek. Moskva,
Ges.izd-vo selkhos.lit-ry, 1955.312 p.
(Electricity in agriculture) (Electric engineering)

ACCESSION NR: AT3012839   S/2966/62/000/000/0041/0049

AUTHORS: Malyshev, V. A.; Voloshchenko, Yu. P.

TITLE: Characteristics of symmetric band generation in two-circuit drift klystron

SOURCE: Voprosy* elektroniki i elektrodinamiki sverkhvy*sokikh chastot. Taganrog, 1962, 41-49

TOPIC TAGS: symmetric band generation, drift klystron, resonance frequency, coupling constant, high voltage klystron, input resonator

ABSTRACT: The construction and solution of a two-circuit klystron generator limited to symmetric band generation has been discussed on the basis of a schematic diagram (see Fig. 1 on the Enclosure) where input and output frequencies are assumed to have identical resonance frequency ω. The conditions for linear frequency characteristics have been discussed and a generation band is obtained with a flat peak. The condition for obtaining a band with a maximum at the center equal to U_1 is given by

$$K^2 = \frac{(Q_1 + Q_{2H})^2}{2 Q_1 Q_{2H}} - 1$$

where K - is the coupling constant and Q_1 and Q_{2H} are given by

Card 1/2

ACCESSION NR: AT3012839

$$Q_i = -\frac{w_0 C_i}{Q_i} ; \qquad Q_{sM} = \frac{w_0 C_i}{Q_i + Q_M}.$$

This condition is shown to differ somewhat from the linear frequency characteristics requirements and hence is incompatible with it. The case of a high-voltage klystron with a load in the input resonator circuit is discussed. A numerical example is cited for illustration. Orig. art. has: 26 formulas and 4 figures.

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 07Oct63   ENCL: 01

SUB CODE: EE   NO REF SOV: 010   OTHER: 001

Card 2/2

MYAKSHIN, Vladimir Nikolayevich; VOLOSHCHENKO, Z.N., red.;
       LEUSHCHENKO, N.L., tekhn. red.

       [Soundproofing building elements (with local materials)]
       Zvukoizoliatsiia stroitel'nykh konstruktsii; iz mestnykh
       materialov. Kiev, Gosstroiizdat USSR, 1963. 95 p.
                                          (MIRA 17:3)

MEZHIBORSKIY, Petr Markovich; VOLOSHCHENKO, Z.N., red.; LEUSHCHENKO,
        N.L., tekhn. red.

        [Tables for hydraulic calculation of pressure reinforced
        concrete water pipes] Tablitsy dlia gidravlicheskogo ras-
        cheta napornykh zhelezobetonnykh vodoprovodnykh trub. Kiev,
        Gosstroiizdat USSR, 1963. 117 p.   (MIRA 17:2)

Voloshenko   Klimovitskiy, Yu. Ya.,

137-1957-12-25404

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 349 (USSR)

AUTHORS: Voloshenko-Klimovitskiy, Yu. Ya.

TITLE: On the Question of the Resistance of Metals to Impact Tension
(K voprosu o soprotivlenii metallov udarnomu rastyazheniyu)

PERIODICAL: V sb.: Prochnost' metallov. Moscow, AN SSSR, 1956, pp 137-138

ABSTRACT: A method is described which permits a direct recording of the impact tension on metals. A newly developed testing technique and apparatus make it possible to photograph the initial portion of the impact-tension graph with p and ε(percent) as coordinates, on the screen of an oscillograph, and also to measure the increase in dynamic σ_s with increased impact velocity. An oscillogram is given showing the impact tension normalized grade-45 steel which was photographed at two different impact velocities. Investigations performed with the new equipment in accordance with the methods proposed confirm the correctness of a number of conclusions made earlier.

Z. F.

Card 1/1   1. Metals-Tensile properties-Test methods   2. Metals-
Tensile properties-Testing equipment

VOLOSHENKO-KLIMOVITSKIY, Yu.Ya. (Moskva)

Elastic-plastic expansion processes due to impacts. Izv.AN SSSR.
Otd.tekh.nauk no.4:147-150 Ap '56.   (MLRA 9:8)
    (Deformations (Mechanics)) (Steel alloys--Testing)

VOLOSHENKO-KLIMOVITSKIY, YU.YA.

VOLOSHENKO-KLIMOVISKIY, Yu.Ya.

Method for measuring stresses and small deformations during tensile impact testing. Zav. lab 22 no.9:1090-1094 '56.   (MLRA 9:12)
    (Deformations(Mechanics)) (Metals--Testing)
        (Strains and stresses)

VOLOSHENKO-KLIMATOVSKIY, Y. Y. and UZHIK. G. V. Prof.

"The Elastic-Plastic Strain of Steels under Longitudinal Impact,"
paper submitted at the Conference on the Properties of Materials at High Rates
of Strain, London, 30 Apr-2 May 1957

Mechanical Inst., AS USSR

SOV/24-58-6-7/35

AUTHOR: Yu. Ya. Voloshenko-Klimovitskiy

TITLE: On the Possibility of Separate Evaluation of the Strength
and Ductility of Metals during the Determination of
Impact Strength (O vozmozhnosti razdel'noy otsenki
prochnosti i plastichnosti metallov pri ispytanii na
udarnuyu vyazkost')

PERIODICAL: Izvestiya akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, 1958, Nr 6, pp 42-46 (USSR)

ABSTRACT: Materials characterised by widely different strengths and
ductility can have the same impact strength. Therein
lies the main shortcoming of impact testing for evaluating
the properties of metals. In the present investigation
the author studied the possibility of evaluating the
ductility and strength of metals during the determination
of their impact strength by measuring the amplitude and
duration of the load impulse causing the fracture of the
test pieces. It was shown by Uzhik (Ref 2) that wide
differences exist in the shape of the load impulse for
brittle and ductile metals when the dynamic tensile
strength of notched bar impact test pieces is determined.
In the case of brittle metals the process of fracture

Card 1/4

SOV/24-58-6-7/35

On the Possibility of Separate Evaluation of the Strength and
Ductility of Metals during the Determination of   Impact Strength

lasted twenty to thirty micro-seconds, while in the case
of test pieces of the same shape and size prepared from
ductile materials, depending on the ductility, fracture
lasted two to twenty times longer. This led to the con-
clusion that the duration of the load impulse could be
taken as an indication of the ductility of the material.
In the course of the same experiments it was found that
there was a close connection between the amplitude of the
load impulse as measured from the oscillogram and the
tensile strength of the material: the stronger the metal,
the larger was the amplitude of the load impulse.
Oscillograms typical of brittle and plastic materials are
shown in Fig 1. In the case of ductile metals the load
initially increased and then, for a short time, remained
almost constant, the duration of this period being a
measure of the ductility of the material. Since the time
during which the load reaches its maximum value is
comparatively short, only two values are required to
characterise the shape of impulse: the amplitude and the
duration of the impulse which, as was previously shown,

Card 2/4

SOV/24-58-6-7/35

On the Possibility of Separate Evaluation of the Strength and
Ductility of Metals during the Determination of   Impact Strength

can characterise the strength and ductility of the
material, respectively. The shape of the load impulse was
determined by means of fitting a dynamometer on to the
hammer of the pendulum of the impact testing machine.
The dynamometer was provided with a wire resistance strain
gauge which measured the deformation due to applied load;
this was connected to an electronic instrument which
recorded both the amplitude and the duration of the
impulse. A detailed description and schematic diagram
(Fig 4) of the recorder are given. In all, 200 beam
notched bar test pieces prepared from various ferrous
metals were tested. Some of the materials were subjected
to various thermal treatments to give them differing
mechanical properties. A total of 40 materials was
investigated: in each case the following properties were
determined: inpact strength a_k and the characteristics
of strength P_t and ductility ψ_t.   The analysis of the
results obtained was based on the assumption that if the
values measured by the above described method do

Card 3/4

On the Possibility of Separate Evaluation of the Strength and   SOV/24-58-6-7/35
Ductility of Metals during the Determination of   Impact Strength

characterise strength and the ductility of the materials, the relationship between the product $P_t \cdot \psi_t$ and a_k should be linear. It is apparent from the experimental results, plotted in Fig 5, that such indeed was the case. When comparing the properties of different metals it is more convenient to use sets of curves $a_k = f(\psi_t, t)$ in which P_t a parameter. Acknowledgement is expressed to G.V. Uzhik for suggesting the method described here.

There are 3 photographs, 1 diagram, two graphs and three Soviet references.

SUBMITTED: December 16, 1957

Card 4/4

VoLosHeNko - KLImovitsKiy, Y.A.

SOV/2739

PHASE I BOOK EXPLOITATION

25(2);14(10)

Akademiya nauk SSSR. Institut mashinostroyeniya

Problemy prochnosti v mashinostroyenii, vyp.) (Strength Problems in Mechanical Engineering, No.)) Moscow, Izd-vo AN SSSR, 1959. 96 p. Errata slip inserted. 3,000 copies printed.

Ed.: S.V. Serensen, Academician, Ukrainian SSR Academy of Sciences; Ed. of Publishing House: O.A. Mechayeva; Tech. Ed.: N.P. Yegorova.

PURPOSE: This book is intended for design engineers and research workers in the fields of machine building and strength of structures. It may also be useful to students of corresponding specialties in advanced technical schools.

COVERAGE: This is a collection of 5 articles dealing with problems of strength and stability of cylindrical parts. Effect of out-outs, general conditions for the calculation of endurance, fluidity in analysis of fatigue, and measurements of limits of fluidity in impact loading are considered. References appear at the end of each article.

Stepnov, M.N., Ya.I. Glatnikov, and V.P. Kogayev. Statistical Processing of the Results of Fatigue Tests on the Basis of Linear Regressive Analysis   71

The authors obtain fatigue diagrams based on the probability of deterioration in given condition.

Volozhenin, Yu. Ya. Measurement of the Limit of Fluid-   89
ity in Impact Loading

The method of impact loading is described and diagrams showing the dependence of the limit of fluidity on loading and impact speeds are given.

AVAILABLE: Library of Congress

Card 3/3

12-30-59
13/se

85921

S/124/60/000/010/004/004
A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 10, p. 172, # 13305

AUTHORS: Uzhik, G.V., Voloshenko-Klimovitskiy, Yu.Ya.

TITLE: The Initial and Plastic Deformation Resistances at Impact Tension
             Under Low Temperature Conditions

PERICDICAL: V sb.: Nekotoryye probl. prochnosti tverdogo tela. Moscow-Lenin-
             grad, AN SSSR, 1959, pp. 238-245

TEXT: Strain diagrams are presented of specimens of steel 45 and Armco-
iron under impact loading with rates of 3.6 - 8.7 m/sec at +20 and -196°C. The
diagrams were plotted according to the refined method of correlating the experi-
mental graphs of path versus time and stress versus time. The load corresponding
to the yield point (0.2%) coincides practically with the maximum value recorded
by oscillograms for impact loads both at +20°C and -196°C. The ratios of the
rated values of the dynamical and statical yield points are the following:

Card 1/2

85921
S/124/60/000/010/004/004
AC05/A001

The Initial and Plastic Deformation Resistances at Impact Tension Under Low Temperature Conditions

	t°C	at 3.6 m/sec	at 8.7 m/sec
steel 45	+20	1.49	2.00
	-196	2.77	3.17
iron	+ 20	2.16	2.71
	-196	3.64	4.00

There are 8 references.   S.V. Zhuravlev

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

ACCESSION NR: AP4039947   S/0191/64/000/006/0039/0040

AUTHOR: Voloshenko-Klimovitskiy, Yu. Ya.; Belyayev, Yu. A.; L'vov,
B. S.; Shpakovskaya, Ye. I.

TITLE: Impact tensile strength at +20 and -196 C of glass reinforced
plastics based on PN-1 binder cured at low temperatures

SOURCE: Plasticheskiye massy*, no. 6, 1964, 39-40

TOPIC TAGS: glass reinforced plastic, glass fabric T-1, polyester
resin PN-1, impact tensile test, static tensile test

ABSTRACT: The authors have developed at the Laboratory of the Strength
of Materials for Machine Building of the IMASh GKA i M a method for
impact tensile tests of glass reinforced plastics (GRP). This method
makes it possible to determine the tensile strength in uniaxial
stretching and can be used for calculating mechanical strength. It
was applied to T-1 glass fabric-reinforced unsaturated polyesters
resin PN-1. The GRP were subjected to static and impact tests. The
results, which are given in Fig. 1 of the enclosure, show that PN-1-
based GRP possess a good "dynamic strength reserve" both at +20 and
-196 C. Orig. art. has 1 figure and 1 table.

Card 1/3

ACCESSION NR: AP4039947

ASSOCIATION: none

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SUB CODE: MT   NO REF SOV: 002   OTHER: 000

Card 2/3
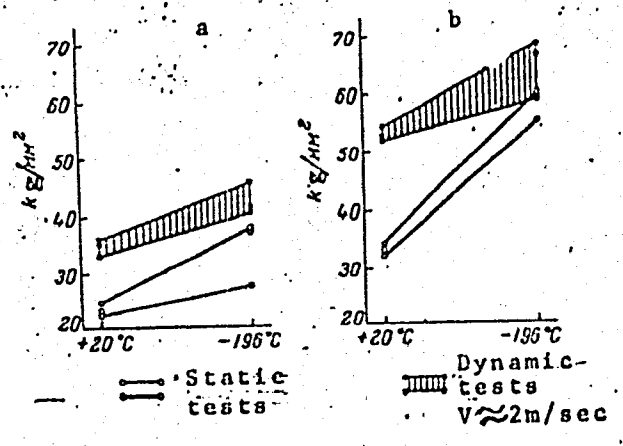
Fig. 1.   Results of static and dynamic
tensile tests of PN-1-based glass-rein-
forced plastics at +20 and -196 C.

a - Along the woof; b - along the warp.

UR/

BOOK EXPLOITATION

ACC. NR. AM5015048

Veloshenko-Klimovitskiy, Yuliy Yakovlevich

Dynamic yield point (Dinamicheskiy predel tekuchesti) Moscow, Izd-vo "Nauka", 1965.
177 p. illus., biblio. Errata slip inserted. 3400 copies printed. (At head of
title: Akademiya nauk SSSR. Gosudarstvennyy komitet po mashinostroyeniyu pri
Gosplane SSSR. Gosudarstvennyy nauchno-issledovatel'skiy institut mashinovedeniya)
Managing editor: Professor V. L. Biderman, Doctor of Technical Sciences, Lenin
Prize Winner; Editor of the publishing house: V. G. Klintsov; Technical editor:
O. M. Gus'kova

TOPIC TAGS: dynamic loading, dynamic yield point, plastic flow, yield stress, alloy,
impact stress, iron/ AMg-6T alloy, D-16 alloy, St45 iron, St3 iron, Armco iron

PURPOSE AND COVERAGE: In this book, the author has attempted to overcome the diffi-
culty that arises in utilizing the known increase in strength characteristics of a
metal, especially the yield point, at high load rates in the design and construction
of objects subject to dynamic loading of the absence of reliable quantitative data
concerning the dependence of strength on load regime. The special merit of the book
lies in the development of a reliable method of determining the dynamic yield point
in the case of loads increasing linearly with time. The author succeeded in overcoming
the difficulties connected with development of loading devices and with the measure-

UDC: 624.042.8;546.3.004.12

Card 1/4

ACC NR: AM5015048

ment technique. The experimental method described in detail can be utilized by other investigators to evaluate the behavior of materials at high load rates. Dynamic yield points for a number of steels and aluminum alloys, depending on load rate in a wide range of temperatures, are presented. The author's proposal to compute the dynamic yield point under different load conditions on the basis of the correspondence between the dynamic-yield-point value and the time delay of yield is of special interest. Although this proposal is based on a number of hypotheses that are not directly subject to experiment (independence of σ_0 of temperature, law of accumulation of time delay $\int dt/\tau(\sigma) = 1$, etc.), experimental results confirm the applicability of the computing formulas. The work presented here has been under way over the past 10 years in the Laboratoriya prochnosti mashinostroitel'nykh materialov of the Institut mashinovedeniya and the Komitet po mashinostroyeniyu. The former director of the Laboratory, G. V. Uzhik (deceased), was the initiator and supervisor of these investigations. The author expresses his gratitude to the Former I. A. Oding and to Corresponding Member of the Academy of Sciences of the USSR A. A. Il'yushin and to Academicians S. A. Khristianovich and S. V. Serensen. The following personnel from the Laboratoriya prochnosti materialov of the noted Institute participated in development of apparatus and methodology and in performing the research: A. F. Mel'shanov, A. A. Vyacheslavov, and Iu. A. Belyayev, and L. N. Tarasov and O. V. Tikhomirova assisted in preparing the text.

Card 2/3

ACC NR: AM5015048

TABLE OF CONTENTS (ABRIDGED):

SUB CODE: 11   /SUBM DATE: 31Dec64   /ORIG REF: 033   /OTH REF: 026

Card 3/3

VOLOSHENKO-KLIMOVITSKIY, Yu.Ya.; BELYAYEV, Yu.A.; L'VOV, B.S.; SHPAKOVSKAYA, Ye.I.

Strength of cold cured PN-1 bonded glass plastics under the conditions of impact tension at normal (+20°C) and low (-196°C) temperatures. Plast.massy no.6:39-40 '64.

(MIRA 18:4)

VOLOSHENKO-KLIMOVITSKIY, Yuliy Yakovlevich; BIDERMAN V.L.,
    laureat Leninskoy premii prof., doktor tekhn. nauk,
    otv. red.

    [Dynamic yield limit] Dinamicheskii predel tekuchesti.
    Moskva, Nauka, 1965. 177 p.   (MIRA 18:3)

L 12969-63   EPR/EWP(j)/EPF(c)/EWT(m)/BDS   AFFTC/ASD   Ps-4/Pc-4/Pr-4
    RM/WW

ACCESSION NR: AP3000403   S/0191/63/000/005/0053/0056   75
                                                                                      73
AUTHOR: Voloshenko-Klimovitskiy, Yu. Ya.; Belyayev, Yu. A.; Korenkov, Yu. A.

TITLE: Investigation of the impact stretch of glass-fiber compositions at normal
and low temperatures

SOURCE: Plasticheskiye massy*, no. 5, 1963, 53-56

TOPIC TAGS: impact tension, glass-fiber compositions, phenol-formaldehyde resins

ABSTRACT: Methods for assessing the dynamic properties of viscous fiber-glass com-
positions leave much to be desired; only their impact strength has been determined.
The authors have devised a method for testing the impact tension of these materials
at normal (+20C) and low (-196C) temperatures, using equipment at the Laboratoriya
prochnosti mashinostroitel'ny*kh materialov (Machine-building Materials Strength
Laboratory) of IMASh GKA i M. Used for the tests were two experimental formulations
of AG-4S (phenol formaldehyde resin with a filler of oriented glass fibers, equi-
stable and unidirectional, respectively). Because of the low plasticity of these
materials, only the stress impulse need be recorded. Hence the apparatus required
is less complicated than in the case of metals. A single-beam impulse oscillograph
(10-4) gave satisfactory results. Low temperature increased the strength of the
AG-4S formulations, even during impact stress. The increase was negligible, how-
Card 1/2

L 12969-63
ACCESSION NR: AP3000403

2

ever, when cold and stress were applied simultaneously, as compared with their separate application; in some cases, in fact, strength was reduced when low temperature and stress were brought to bear simultaneously. "The authors thank Ye. I. Stepany*chev and Ye. F. Vasil'yev for their assistance in procuring the samples of glass-fiber compositions used in the studies." Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: MA

DATE ACQ: 10Jun63

NO REF SOV: 004

ENCL: 00

OTHER: 000

Card   2/2

VOLOSHENKO-KLIMOVITSKIY, Yu.Ya.; BELYAYEV, Yu.A.; KORENKOV, Yu.A.

Testing of glass plastics for impact tension at normal and
low temperatures. Plast.massy no.5:53-56 '63.   (MIRA 16:6)
(Glass reinforced plastics--Testing)

VOLOSHENKO-KLIMOVITSKIY, Yu.Ya.; VYACHESLAVOV, A.A.; MEL'SHANOV, A.F.

Apparatus for testing materials under "high-speed" loading. Zav.-
lab. 29 no.4:482-486 '63.   (MIRA 16:5)
                    (Testing machines)

S/032/63/029/004/012/016
A004/A127

AUTHORS: Voloshenko-Klimovitskiy, Yu.Ya., Vyacheslavov, A.A.,
             Mel'shanov, A.F.

TITLE: Apparatus for testing materials under high-speed loads

PERIODICAL: Zavodskaya laboratoriya, no. 4, 1963, 482,- 486

TEXT: Although the interest in studying material properties under
"high-speed" loads, during which the time up to destruction of the specimens
is measured in milliseconds, is co n s ta.ntly growing, the mechanical charac-
teristics under such loads have been practically not investigated at all due
to the lack of adequate machines and instruments. The authors give a des-
cription of a laboratory-type installation for the testing of materials under
high-speed loads, describing in detail the loading device, the apparatus for
recording the loads and deformation of the specimens and point out that the
loading pulses are in the range of from some milliseconds to one second. The
block diagram of the electronic portion of the apparatus and an oscillogram
of the high-speed load testing of СТ3 (St.3) grade steel and AМг6 (AMG6)
alloy are given. There are 3 figures.
ASSOCIATION: Institut mashinovedeniya (Institute of the Science of Machines)
Card 1/1

UZHIK, G.V.; VOLOSHENKO-KLIMOVITSKIY, Yu.Ya.

Laws governing variations in the creep strength of metals
under high-speed loading and at low temperatures and their
significance in estimating the danger of brittle failure.
Dokl. AN SSSR 143 no.4:802-804 Ap '62.   (MIRA 15:3)

1. Institut mashinovedeniya Gosudarstvennogo komiteta Soveta
Ministrov po avtomatizatsii i mashinostroyeniyu. Predstavleno
akademikom A.A.Blagonravovym.
        (Creep of metals) (Strength of materials)

VOLOSHENKO-KLIMOVITSKIY, Yu.Ya.

Determination and utilization of the dynamic reserve
strength of glass plastics. Zav.lab. 28 no.4:480-482
'62.   (MIRA 15:5)

1. Institut mashinovedeniya.
            (Glass reinforced plastics--Testing)

VOLOSHENKO-KLIMOVITSKIY, Yu.Ya. (Moskva)

Regularities in the changes of the yield point at high speeds
of loading and low temperatures. Izv.AN SSSR,Otd.tekh.nauk,Mekh.
i mashinostr no.1:154-156 Ja-F '62.   (MIRA 15:3)
                    (Strength of materials)

S/032/62/028/004/014/026
B105/B101

AUTHOR: Voloshenko-Klimovitskiy, Yu. Ya.

TITLE: Determination and utilization of the dynamic strength of glass plastics

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 4, 1962, 480 - 482

TEXT: $A\Gamma$ -4 c (AG-4s) glass reinforced plastics (phenol formaldehyde resin + glass fiber) were subjected to short-time impact tests with a vertical striker. A cathode ray oscilloscope was used for recordings. A steel dynamometer was found to be preferable to gauges glued on to the sample. The maximum parameters of a semisinusoidal short-time load can be calculated from the values P_b (breaking load) and τ_b (loading rate of the breaking load) of the impact test oscillographs on the basis of $P_{max} \approx 0.9 \, P_b$; $\tau_{max} \approx 2.5 \, \tau_b$. The data obtained were 70 - 90% higher than the values of static tests. The greater strength called dynamical reserve, is to be applied for lighter constructions subjected to short-time impact loads only. There are 2 figures.
Card 1/2

Determination and utilization...   S/032/62/028/004/014/026
                                        B105/B101

ASSOCIATION: Institut mashinovedeniya (Institute of Science of Machines)

Card 2/2

3668

S/020/62/143/004/006/027
B104/B102

18.9200

AUTHORS: Uzhik, G. V., and Voloshenko-Klimovitskiy, Yu. Ya.

TITLE: Regularities in the change of the yield point of metals at
            high loading rates and low temperatures and their importance
            for the estimation of the tendency to brittle destruction

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 4, 1962, 802 - 804

TEXT: An apparatus for the gradual loading of metallic samples with a
constant rate was constructed in the Laboratoriya prochnosti materialov
Instituta mashinovedeniya (Laboratory of Strength of Materials of the
Institute of the Science of Machines). Load versus time and load versus
deformation curves are recorded with an oscilloscope system. The loading
rate is $\sim 10^3$ kg/mm^2.sec. Results obtained in the range of $-100°C$ to $+20°C$
show that $\eta = \vartheta + \zeta - 1$ holds for AMT-6T (AMG-6T) and A-16 (D-16) aluminum
alloys and for C_T.45 (St.45) steel. $\eta = \sigma_s(\dot\sigma, t)/\sigma_0$, $\vartheta = \sigma_s(t)/\sigma_0$,
$\zeta = \sigma_s(\dot\sigma)/\sigma_0$, $\dot\sigma$ is the loading rate, t - temperature, σ_0 - the yield
point determined with static loads, σ_s - the 0.2 % elongation limit.
Card 1/2

Regularities in the change ...

S/020/62/143/004/006/027
B104/B102

This relation is valid for the above alloys for low loading rates and shock loading (Yu. Ya. Voloshenko-Klimovitskiy et al., Izv. AN SSSR, OTN, no. 4 (1956); Zav. lab., no. 9 (1956)). The yield points of $C_T.3$ (St. 3) and Armco iron at +145 and -196°C do not increase if the loading rate increases to shock loading. Conclusion: There exists a limit to the yield point which is caused by a change in the mechanism of plastic deformation. This change occurs at given temperatures and loading conditions. The tendency to brittle destruction of a metal may be estimated by its behavior at high loading rates and low temperatures. There is 1 figure.

ASSOCIATION: Institut mashinovedeniya Gosudarstvennogo komiteta Soveta Ministrov po avtomatizatsii i mashinostroyeniyu (Institute of the Science of Machines of the State Committee of the Council of Ministers for Automation and Machine Building)

PRESENTED: July 24, 1961, by A. A. Blagonravov, Academician

SUBMITTED: July 24, 1961

Card 2/2